

# AMATEUR RADIO

JULY  
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

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Telephone: MU 5154.

## PRINTERS:

"RICHMOND CHRONICLE,"  
Shakespeare St., Richmond, E.1.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid) and A/7/6 in all other countries.

Wireless Institute of Australia  
(Victorian Division) Rooms' Telephone is FJ 6997.

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## AMATEUR RADIO

Published by the Wireless Institute of Australia,

Law Court Chambers, 191 Queen Street,  
Melbourne, C.1

## EDITORIAL



## BAND-PLANNING

Since the re-issue of licences after the War, one of the greatest problems confronting Amateur Societies throughout the world has been that of planning the sub-division of the Amateur Bands between telegraphy and telephony. This problem has been brought about by various reasons—the re-activated interest in Amateur Radio by many old-timers, new Amateurs and the constriction of the bands. In Australia, no less than elsewhere, we have been well aware of these facts and realised that something must be done, either voluntary or compulsorily, to alleviate the congestion. We intend in these Editorials to convey to you the overseas "picture" as well as our own.

In Great Britain and Europe this condition is aggravated to a greater extent than ever known in Australia, where our ideal geographic location isolates us from large masses of Amateurs. Realising the parlous state of the bands, the Radio Society of Great Britain took immediate steps to appoint a Codes of Practice Committee to investigate and report on the matter. After much preliminary work, the Society took a National poll of Amateurs in February, 1947, but unfortunately the response was poor and no definite opinion could be deduced. Not to be dismayed, the Society, through its Committee, produced a tentative plan some twelve months later and circulated all European Societies and Empire Societies of the B.E.R.U. for comments. This bore fruit and having produced from this poll an amended plan, again circulated all Town Groups of the R.S.G.B. to ensure that a complete cross-section of active Amateurs' opinion was obtained. On these answers the final plan was formulated—its implementation to be on a voluntary basis and to come into operation immediately.

Every attempt was made to keep the plan simple, while having in mind existing conditions of harmonic relationship of the bands, ease of

frequency measurement, and the frequency divisions in other parts of the world—in all, a comprehensive and carefully-calculated plan. The well-tried practice of U.S.A. in reserving sections in each band for exclusive telegraphy use has been incorporated with the exception of the 3.5 Mc. band. This may seem at first sight unfair to the telephony stations, but on closer inspection this is not so. Except for c.w. contest periods, telegraphy stations remain much within their own "confines" and show no inclination to compete with telephony stations in the "telephony" portions of the bands—thus preserving that elasticity which is desirable under any voluntary agreement.

The plan which the R.S.G.B. has asked all its members and European Societies to adopt, on a voluntary basis, is as follows:—

3500-3600 Kc. c.w. only  
3600-3635 Kc. phone only  
3635-3800 Kc. phone only  
7000-7050 Kc. c.w. only  
7050-7300 Kc. c.w. and phone  
14000-14150 Kc. c.w. only  
14150-14400 Kc. c.w. and phone  
28000-28200 Kc. c.w. only  
28200-30000 Kc. c.w. and phone.

This plan will later be modified as follows, when the final Atlantic City allocations are made:—

3500-3600 Kc. c.w. only  
3600-3800 Kc. phone only  
7000-7050 Kc. c.w. only  
7050-7150 Kc. c.w. and phone  
14000-14100 Kc. c.w. only  
14100-14350 Kc. c.w. and phone  
21000-21150 Kc. c.w. only  
21150-21450 Kc. c.w. and phone  
28000-28200 Kc. c.w. only  
28200-29700 Kc. c.w. and phone.

Next month, we will convey to you the proposals and steps of other countries to solve this vexatious problem and still meet with the goodwill of both c.w. and phone operators alike.

—W.T.S.M.

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# Single Sideband Suppressed Carrier

BY L. W. EDWARDS,\* VK7LE

Although single sideband suppressed carrier systems are new to the Ham world, they are not new in the commercial sphere and circuits have been operating for many years in England and America. Then there are the carrier telephone systems used by the P.M.G.'s. Department for their trunk lines which are single sideband suppressed carrier systems on wires.

But now to facts and figures. To understand fully the principles involved we must first look to the theory of the amplitude modulated carrier where we have sidebands extending either side of the steady carrier frequency. The a.m. carrier and sideband covers a portion of the frequency spectrum depending on the highest modulating frequency. If modulated with 5 Kc. as the highest audio frequency, then the portion of the band covered will be 10 Kc. or 5 Kc. either side of the carrier frequency. At 100% modulation the total average power in both sidebands is 50% of the carrier power—that is each sideband is 25% of the carrier power, the extra power under modulation is of course supplied by the modulators.

To understand how modulation takes place it is probably easiest to imagine it as a heterodyne process, which in fact it is. If we have a carrier frequency of 7 Mc. appearing in the plate circuit of our final amplifier and we inject an audio frequency of 1,000 cycles from our modulators, then the two frequencies beat together to produce two new frequencies, the carrier plus 1,000 cycles or 7,001 Kc., and the carrier minus 1,000 cycles or 6,999 Kc. Then we have four separate frequencies appearing in our final tank circuit, 6,999 Kc, 7,000 Kc, 7,001 Kc. and 1,000 cycles. The three radio frequencies are passed to the aerial and radiated while

the 1,000 cycles is shorted out by the tank. In the receiver the process is reversed and the incoming carrier and sidebands are impressed upon the detector where they beat together to produce the original 1,000 cycles.

If we look closely at this process we can readily see that it is only necessary to have the carrier and one sideband to produce the original 1,000 cycles, therefore we can do away completely with one sideband without affecting the intelligibility. This in fact is one method of narrowing the band width used by a transmitter, and actually cuts the band width in half. Now suppose we suppress the carrier completely and transmit only one sideband. This sideband alone cannot convey any intelligence because it has no carrier to beat with in the receiver detector, but if we supply at the receiver a carrier of the same frequency as the suppressed carrier, such as from our b.f.o., v.f.o. or frequency meter, then this local carrier and our incoming sideband beat together and produce the original modulation.

Now, you will ask, what possible benefit can we get from this rather involved process?

Well, returning to the picture of what our normal a.m. signal looks like, we have a carrier of a single steady frequency with sidebands consisting of a number of separate frequencies extending either side. If our highest modulating frequency is 3 Kc., then our signal takes up 6 Kc. of the band and this limits the number of stations operating on a certain band without interference. For instance, the 80 metre band is 300 Kc. wide, which means that 50 stations may operate without interference, but suppose we suppress the carrier and one sideband, then our signal only takes up 3 Kc. of the band and 100 stations may now operate. In actual practice, of course, stations may operate closer together on the band, but where normal

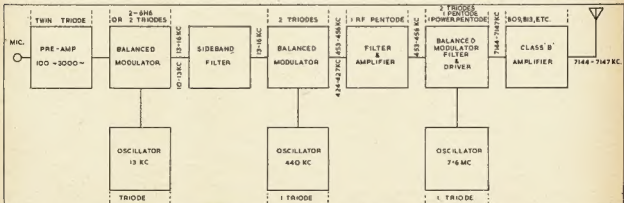
a.m. transmission is used, the QRM becomes worse as the stations operate more closely. If all stations were operating on s.s.c., heterodyne QRM would be entirely eliminated because no carriers are transmitted to cause steady heterodynes, and a signal is only emitted when the operator speaks. In actual practice s.s.c. stations may operate within a few hundred cycles of each other as only the signal to which a local carrier is supplied will be readable—the other signal remaining as unintelligible monkey chatter in the background.

Now look at the final amplifier of your transmitter. If the carrier is 100% modulated with a sine wave, the total average power in the sidebands is half the carrier power. Thus if our carrier power is 100 watts, our sidebands will total 50 watts—25 watts in each sideband or a total power radiated of 150 watts. Now suppress the carrier and one sideband and we have remaining one 25 watt sideband, but the final amplifier is obviously capable of handling 150 watts.

So it appears that it should be possible to increase the remaining 25 watt sideband to 150 watts, which is the equivalent sideband power for a 600 watt carrier! However, this is assuming the final amplifier is running Class C as it does with normal a.m. transmitters, but with the s.s.c. transmitter we must run Class B linear or Class A because the system will not stand the distortion introduced by a Class C amplifier. Therefore we have a slight loss in efficiency, the Class B amplifier being approximately 10 or 15% less efficient than the Class C.

Actually the Class B amplifier does not have to be adjusted to carrier conditions as there is no carrier, it will operate as a normal Class B audio amplifier except that only one tube is necessary. However even with this loss

\* Strickland Avenue, South Hobart.



Block Diagram of a Filter Type Single Sideband Suppressed Carrier Transmitter. Receiver parts and technique is used to the input of the Final Amplifier. Excluding the Final Amplifier, the Power Supply necessary is 300 Volts at 120 Ma.



in efficiency the power gain over the normal a.m. transmitter is still 6 db or four times. These figures are based on sine wave modulation, whereas with speech modulation the average voice waveform contains only about half as much power as a sine wave of the same peak amplitude—this further increases our power gain to 9 db or eight times. Then again no operator speaks at maximum intensity all the time.

In our normal a.m. final amplifier the carrier causes most of the heating or plate dissipation, but since with s.s.c. there is no carrier, we may increase the allowable dissipation, and from this fact our power gain is increased further to approximately 12 db or 16 times! Now this single sideband suppressed carrier business starts to look rather attractive.

Now from the economy point of view, a normal a.m. transmitter of 100 watts carrier power requires an input of about 130 watts to the final amplifier, plus about 80 watts input to the modulators, a total of 210 watts, neglecting the low level stages. In the s.s.c. transmitter we do away with high power modulators and therefore 80 watts of input power, also since there is only input to the final r.f. amplifier when the operator speaks, the saving in power is quite considerable. Actually with an average input of 100 watts to the final Class B amplifier we can get approximately 85 watts of sideband, or the equivalent of nearly a kilowatt of normal a.m. phone!

Transmitting only one sideband, the receiver bandwidth need only be half as great as for double sideband, and this gives an immediate 3 db increase in signal to noise since reducing the

bandwidth by half increases the signal to noise ratio by twb. There is also less trouble with selective fading—the kind where the sidebands and carrier come in out of phase—since we have no carrier and only one sideband we can expect almost complete freedom from this effect.

### ADVANTAGES

Now just looking back over the advantages to be gained by using single sideband suppressed carrier:—

1. Reduced bandwidth—thus allowing more stations to operate on the band and giving a better signal to noise ratio.
2. No carriers—therefore no heterodyne QRM.
3. An approximate power gain of 16 times the normal double sideband rig—all the power goes into the single sideband.
4. More economical—very much lower power consumption for a greater effective output than the normal a.m. rig.
5. Almost complete absence of selective fading.
6. A substantial reduction in QRM and QRN.

Almost all the above advantages have been gained in the tests carried out so far, but all of them won't be evident unless all phone stations are using the system. However, it is certainly a step in the right direction as a solution to the present crowded conditions on the various bands.

Acknowledgements go to "QST" for much of the information contained in this article, and those interested are recommended to read the January, 1948, issue.

### DISADVANTAGES

There are, of course, some disadvantages:—

1. The equipment to produce a single sideband suppressed carrier signal is a little more complicated and more care is needed in the construction and adjustment of the rig. The main snag is the filter used to chop off one sideband, but this is not quite so difficult as it might appear.
2. Tuning in the signal with a normal receiver is inclined to be a rather touchy business and a voltage regulator on the converter and b.f.o. is almost a necessity as the local carrier which must be supplied at the receiver should be kept within plus or minus 50 cycles of the original suppressed carrier.

There are two generally known methods of obtaining a single sideband suppressed carrier signal—one system uses a filter at a low frequency to chop off one sideband, and balanced modulators to suppress the carrier. The other system uses a phase shift network to cancel out one sideband and carrier.

Of the two systems the filter type gives true carrier and sideband suppression, while the other system of phasing is quite critical in adjustment and does not completely suppress the carrier or unwanted sideband. It may also create undesirable sidebands which may radiate outside the band.

An article on the design and construction of a filter type single sideband suppressed carrier transmitter for Australian conditions is in preparation for submission to "A.R." at some future date.

## Receiver Base Mounting

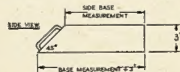
BY LEE HITCHINS,\* VK6HC

Recent editions of "QST" have contained advertisements on tilt bases for standard communication receivers. These bases elevate the receiver a few inches to a more convenient height and place the receiver panel on a slight angle away from the operator. It also enables one to instal control switches (send, receive, etc.) on the new small panel provided below the receiver panel—so that all station controls are grouped together right at one's finger tips.

At this QTH the writer had no desire to tilt the receiver, as an S9'er roasts on top of it, and it seemed to me that the transmitter controls would now be as hard to handle as the bottom row of the receiver had been before being elevated.

A modified version was thought up to elevate the receiver in a normal position and provide convenient control panel space for switching. A chassis, similar to an amplifier chassis, is used. The height is three inches and the

length and depth depend on the receiver in use. Viewing the base from side on (see sketch A), the top length is three inches shorter than the base length—giving a sloping front panel at an angle of forty-five degrees. The base is constructed of heavy gauge iron and



FRONT OF RECEIVER

crackled to match the particular receiver.

On the sloping front panel provided, under the now elevated vertical receiver panel, can be placed controls to give finger tip control over the rig. The suggested layout is in sketch B. Naturally the set-up can be adapted to local demands and a small c.f.o., line meter or any other indicator can be used in the space available.

The meter suggested here is a modulation percentage indicator, and its associated controls—two toggle switches, a variable condenser and a phone monitor jack—are on the left. For details of this device, which consists mainly of two germanium crystals and a meter, see the 1948 A.R.R.L. Handbook, page 478. To the right of the meter are two switches and three bezels. The switches are: receive (green bezel) or transmit (amber or red), and c.w. (amber) or phone (red). If desired the base can be given a slightly more professional appearance by the addition of two chrome handles, one on either end of the panel as shown.

\* Sorrento Street, North Beach, W. Aus.

# IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

JULY, 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra. No forecasts are given from Perth to Zones Z2 and Z4 for the current month, as chart P-Z2 would be essentially similar to chart P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern latitudes.

## USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a it is necessary to consult both the short-route (S.R.) chart and the following long-route (L.R.) chart.

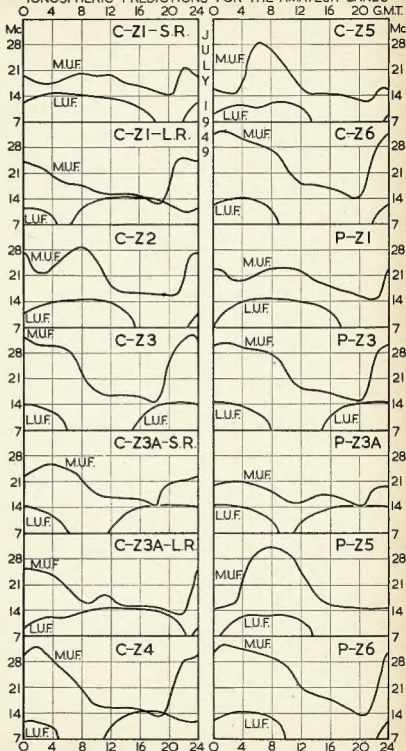
## QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Perth-London circuit would be useful:—

1. Were best conditions experienced on 7 Mc. for a few hours before midnight G.M.T.?
2. Did the 7 Mc. band regularly become workable at about 1700 hours G.M.T., and unworkable at about midnight G.M.T.?
3. What conditions were experienced on 14 Mc., particularly around 0800 hours and around 2200 hours G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.

## IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS



## A Universal Speech Amplifier

BY DR. R. L. DOUGLAS,\* VK2ON

The circuit shown is that of a speech amplifier which has performed satisfactorily at the writer's station. It was first constructed in 1939 and has been gradually modified to its present form. The circuit is straight forward enough, embodying two pentode 6J7Gs and one triode-connected 6J7G. The 6H6G peak-limiter follows the usual simple circuit.

### CATHODE BY-PASS CONDENSERS

Both paper and electrolytic condensers are connected across the three cathode resistors. The former are of small value and are of value in reducing instability due to r.f. from the final amplifier. The potentiometer in series with the 25 uF. in the second stage acts as a very efficient bass-limiter. This is of major importance in narrow-band f.m. transmissions. It is found that the voice loses none of its clarity or intelligibility by removing the bass frequencies and the tendency to distortion on f.m. is markedly improved.

### PEAK LIMITER

This portion of the circuit is as efficient as it is simple. The usual circuits employ a choke filter following the 6H6, but none was found necessary, in fact the quality was better without this. The 0.0005 uF. shown does, of course, filter off the high frequency harmonics generated.

The two 3,000 ohm resistors provide a potential of 6v+ and 6v— with respect to the 6J7G grid. When clipping occurs, the maximum audio voltage across the 0.1 megohm potentiometer is 6v. This, after amplification by the 6J7G triode, becomes 72v, which in the present transmitter is impressed on the grids of a series modulator through a 3:1 audio transformer.

\* Baan Baan Street, Dapto, N.S.W.

A compact speech amplifier located on the operating table has much to recommend it, as it enables the microphone cable to be kept as short as possible, thereby eliminating one very common source of r.f. pick-up.

The chief advantage of the peak-limiter appears to be that, once adjusted correctly, it is impossible to over-modulate and also a continuous high level of modulation is obtained despite variations in loudness of the voice.

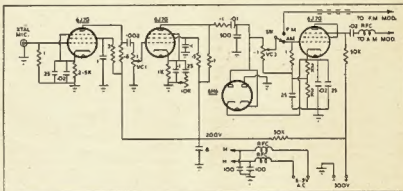
It is necessary to have two volume controls with any peak-limiting device. The setting of VC1 determines the amount of clipping and VC2 determines the depth of maximum modulation. Usually VC1 is advanced until the

limiter is working. Then VC2 is advanced until there is evidence of full modulation, such as a 0.3% increase in p.a. plate current. It is helpful to have the volume controls calibrated in db levels. This may be done fairly simply with a magic-eye type a.c. bridge.

## HEATER LEAD CHOKES

The writer found these to be the last word in removing r.f. instability from the speech amplifier. The chokes do not lower the voltage supplied by more than 0.2v. and each one consists of 50 turns of 18 gauge enamel wire on a 1" former, 21" long. With these chokes it is possible to use the same filament transformer for speech amplifier and r.f. final amplifier even on 28 megacycles.

A too high value of screen voltage on the first 6J7G sometimes causes distortion. It may be necessary to experiment with an additional resistor from the screen to earth to obtain the correct screen voltage.



### Another System of a Simple Speech Clipper

BY C. GIBSON,† VK3FO

When listening to signals on the Amateur bands one is struck by the number of stations that do over-modulate and perhaps are not aware of the position. Unless the signal is monitored by a modulation checker or a c.r.o., a position arises where over-modulation can happen in the speech waveform, where the presence of frequently recurring high intensity peaks of very short duration occur. These peaks will cause over-modulation on loud passages or syllables, if they exceed about 30%. These sharp peaks make the signal a little difficult to copy and do not add to the intelligibility of the signal, but if a speech clipper is used a very understandable signal will be obtained.

This can be brought about simply by increasing the gain of the speech amplifier until the average level of modulation on loud syllables approaches about 90%. This is equivalent to increasing the power by nearly 10 times

—not a bad gain. However the clipping, when accomplished in this manner, will produce higher order sidebands—or splatter—a most undesirable feature, sometimes occupying a considerable

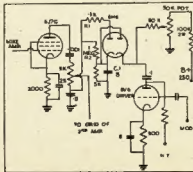


Plate and screen of speech amp. and driver grid are not shown in above.

slice of the band, and QRM is bad enough now.

All these undesirable features in a transmitter can be eliminated by the inclusion of a simple speech clipper. The circuit calls for a 6H6, potentiometer, and a few odd resistors and condensers. At first when it is wired into the speech amplifier it may not appear to work, but by experimenting with R1, R2, and C1 the desired results will be obtained. R1 may be decreased as low as 25,000 and R2 to 50,000. C1 may be 0.1  $\mu$ F, it all depends on the circuit and voltages in the modulator.

The modulator used here is Class AB2 807s driven by a 6V6 as a triode, preceded by a 6J7 mike amplifier into another 6J7. Voltage on the plates of the 807s is 500 volts and the screens 250 volts. The clipper was thoroughly tried out and checked by a c.r.o., the results obtained being well worth the trouble. So if you want a good simple clipper, cheap and very easy to instal, here it is.



# A Versatile Measuring Instrument

BY G. L. F. SMITH,\* VK3FR

In all branches of radio work, there is a continual demand for a means whereby the values of various types of components can be easily ascertained. These measurements, in the main, are those of resistance, capacity and inductance. Resistance can, of course, be very easily checked on any of the usual types of multimeters, whereas for capacity it is generally assumed that a complicated piece of apparatus is required.

Probably most of us, at one time or another, have been browsing through one of our favourite text books, and have noticed a circuit very similar to that in Figure 1, and on reading the accompanying text have discovered that the circuit is really supposed to be that of an instrument intended to measure C and R.

Glancing at the circuit it appears so simple that, for this reason, we have been deterred from constructing such a piece of apparatus on the grounds that there must be a catch in it somewhere. Yes, there is a catch, but it is only one of calibration, which most constructors will have no difficulty in overcoming.

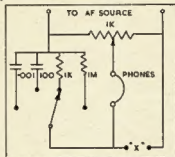
On studying the diagram, it can quickly be seen that it is only a very elementary type of bridge circuit, using headphones as the means of indication, and some source of a.c. as the audio signal, but more about that later.

The ratio arms of the bridge are provided by the potentiometer with the moving arm as the common point, while for the other two arms of the bridge we have the standard values of C, or R, whichever is required to be checked, and across the points marked "X" are placed the unknown values to be checked.

\* Flat No. 1, 88 Acland Street, St. Kilda, Victoria.

Generally with such instruments, there is the necessity for mathematical calculations before we can arrive at an answer to our problem, but once this instrument has been completed and calibrated, the values can be taken directly from the dial.

With the appropriate standard value switched into circuit, and the unknown quantity connected across the points "X," the potentiometer knob is turned until the audio signal in the headphones disappears. This point is somewhat critical but quite definite, so no difficulty should be experienced in locating it.



**CONSTRUCTION** The circuit as built up for the measurement of capacity and resistance is shown in the diagram. Inductance ranges may be added to suit the constructor's particular requirements. These standard values may be brought into circuit by means of a switch, or banana sockets and a wandering banana plug can be used.

The potentiometer value is not very critical but, if possible a linear job should be obtained, although a tapered type will do the job.

The source of audio signal for operation of the bridge can be left to the individual builder to decide upon. In the original, from which the circuit is drawn, a polarised buzzer was used, but when it is re-built, a valve oscillator will be pressed into service as it was found that the buzzer operating was distracting, and as a result, the null point was a little difficult to decide upon. Apart from that, the buzzer does a satisfactory job and in a sound-proof box would be inaudible.

**CALIBRATION** If the builder has access to a calibrated bridge, he can first check the sizes of as many values of components as possible, and then mark his own instrument's dial at the point where the audio signal disappears when the knob is rotated. Lacking these facilities, obtain as many as possible of each particular value, and by averaging out the points on the dial a fairly accurate result can be obtained. The usual run of parts available have a tolerance of up to 20%, so for any general tests this degree of accuracy will suffice, but it will be found that, if care is taken, this instrument will give much closer tolerances than that.

The dial can be directly calibrated or a series of graphs can be drawn from the results obtained. With the values shown, it will be possible to check the value of all popular parts quickly and with accuracy.

In conclusion, it should be realised that only by making a perfectly rigid mechanical job, and taking every care with its calibration, can any sort of satisfactory results be obtained. Building well, then skipping on the calibration, or, vice versa, is only a waste of time and materials. Do both jobs well and the finished article will re-pay you for that extra care many times over.

## HINTS & KINKS

### SELF-POWERED BIAS

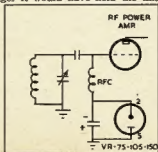
There may be some of you who looked at the article in "QST" (Dec., 1946) by WSWVC, and who thought like myself, "what an idea if it works." As there may be others who do not take "QST," and want some simple idea to bias the final tube so that they can key the buffer stage—here it is, simplicity itself.

In the writer's case, with an 813 in the final, I wanted something simple that would retain a fixed bias so that I could key the 807 buffer stage; it's much easier to eliminate the clicks keying a stage pulling around the 35 Ma. mark.

The VR tube is initially lighted by the grid driving voltage, and a charge is thus placed on the condenser. When excitation is removed, as when the key is up, the VR tube goes out and the

charge that remains in the condenser keeps the amplifier cut off.

The only precaution needed is to switch the buffer stage on first, this charges the condenser. From a test made here, the drive was switched off and the final power supply switched on, the plate current of the final was held at cut-off and remained so for a period of ten minutes, just how much longer it would have held the final in



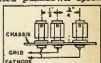
this condition I do not know, but I was personally satisfied with the ten minute test made.

The experts suggest that a paper condenser be used in preference to an electrolytic, in my own case I used an 8 uF, paper condenser 500 volt working, and a VR150—VK5MD.

### SIMPLE UNIVERSAL CRYSTAL HOLDER

A useful crystal holder for the new (or old!) rig can be made very simply from three insulated pushdown spring

type terminals, mounted and connected as shown in the accompanying diagram. This holder will take crystals of both  $\frac{1}{2}$ " and  $\frac{3}{4}$ " pin spacing, and is simple, cheap, and effective. Old headphone terminals will do at a pinch. —VK3ASG.



# "RADIO VALVE PRACTICE"

Published by the British Radio Valve Manufacturers' Association.

This little booklet makes worthwhile reading for Amateurs who are interested in getting the best performance and life out of their valves. The following quotations from it should be of interest and will show the type of information contained therein:—

"It is not safe to assume that one maximum rating (e.g. the anode voltage) may be exceeded provided a corresponding reduction is made to some other rating (e.g. the anode current). Although this may be permissible in some instances, all maximum ratings are

not mutually compensating and some limits are absolute. For example, the peak current rating of mercury vapour rectifiers must not be exceeded, even though the applied voltage is reduced.

"When a frequency range is specified, the valve ratings apply only within this limitation. When receiving or transmitting valves are used at excessively high frequencies, appreciably above the maximum rating, the power dissipated in the lead-in wires due to resistance losses, and in the glass between the leads due to dielectric loss, may be sufficient to over-heat the wires or the glass, and either release gas into the valve or cause the glass to crack. Running the valve at a lower rating will reduce this possibility.

"Low heater or filament voltages are as much to be avoided as high voltages. The constant emission from the cathode depends upon equilibrium between the evaporation of active material from the surface and its replacement from within. If the cathode temperature is excessive, evaporation will occur at a faster rate than replacement. If the cathode temperature is too low replacement will decrease more than evaporation. In either case the emission from the cathode will decline at an excessive rate.

"Valves should not (in general) be mounted base upwards. This method of mounting seriously affects the flow of air around the bulb. If the part of the valve on which the getter is deposited is over-heated gas will be released and the valve will go soft. If the pinch of the valve is over-heated, the inter-electrode capacities will change—particularly in the case of oscillators, frequency drift will result.

"If it is necessary to depart from vertical mounting, the plane of the filament of directly heated valves should be vertical. Similarly the plane of the major axis of the control grid of certain indirectly heated valves having high mutual conductance should be vertical." (Note to 522 users.—If you find the 522s don't last long and you've been using the set in an upright position, have a look, which way the 522s are lying.—A.K.H.)

"Some valve holders incorporate floating contacts, the connections to which should be as flexible as possible. In holders for glass based valves this is particularly important, since the use of stiff wiring will destroy all the advantages provided by the float of the contacts and in extreme cases will hold the contacts permanently out of position and result in damage to valve bases.

"It is undesirable to use spare socket contacts as connecting taps in the circuit wiring. . . in valves with glass bases this practice may adversely affect the valve characteristics by the application of potentials to pins which are not connected to any electrode but which project into the envelope.

"It is generally desirable to avoid a large potential difference between the heater and cathode. This potential should not normally exceed 150 volts, except with valves specially designed for a.c./d.c. operation or as cathode followers, etc. The insulation resistance between the heater and the cathode should not be included in r.f. circuits where frequency stability is required or in a.f. circuits followed by a high gain. If the heater cathode insulation is included in a tuned circuit, any alteration to the physical or electrical properties of the insulation will alter the frequencies to which the circuit is tuned, and if both r.f. and i.f. (mains frequency) voltages exist across the insulation, there is the risk of modulation hum, particularly in cathode coupled oscillators and the like.

"The practice of keying by opening the cathode circuit may result in a large potential difference between heater and cathode and should be avoided. If cathode keying is essential a resistance not exceeding 0.25 megohms should be connected between the heater and the cathode.

"It is undesirable in general, that keying should be carried out by opening the screen circuit whilst the normal anode and grid voltages are maintained. This particularly applies to all forms of tetrodes. If it is necessary to interrupt the anode current by open-circuiting the screen supply, the lowest practicable resistance should be permanently connected between the screen and the cathode.

"Valves should not be used in circuits in applications which result in appreciable suppressor grid current. It is therefore important that in the case of pentodes connected as triodes, the suppressor grid should be connected to the cathode rather than the anode."

The rest of the very practical information contained in this booklet should make it interesting and profitable reading for Amateurs.

— A. K. H.

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Newspaper and university representatives who witnessed the screening, acclaimed the quality and value of this television demonstration which made European history and again evidenced the place held by Philips in the forefront of the technical field.

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AP	Pakistan	KG6	Bonin & Volcano-Is. (Iwo Jima)	UP2	Lithuania
AR8	Lebanon	KH6	Hawaiian Islands	UQ2	Latvia
C	China	KJ6	Johnston Island	UR2	Estonia
CE	Chile	KL7	Alaska	VE	Canada
CM, CO	Cuba	KM6	Midway Island	VK	Australia
CN	Morocco	KP4	Puerto Rico	VK1	Heard Island
CP	Bolivia	KP6	Jarvis Island and Palmyra Group	VK1	Macquarie Island
CR4	Cape Verde Islands	KR6	Ryukyu Islands (Okinawa)	VK9	New Guinea, Territory of
CR5	Guinea, Portuguese	KS4	Swan Island	VK9	Norfolk Island
CR6	Angola	KS6	Samoa, American	VK3	Papua Territory
CR7	Mozambique	KV4	Virgin Islands	VO	Newfoundland
CR8	Goa (Portuguese India)	KW6	Wake Islands	VO6	Labrador
CR9	Macau	KX8	Marshall Islands	VP1	Honduras, British
CR10	Timor, Portuguese	KZ5	Canal Zone	VP2	Leeward Islands
CT1	Portugal	LA	Norway	VP2	Windward Islands
CT2	Azores Islands	LU	Argentina	VP3	Guinea, British
CT3	Madeira Islands	LX	Luxemburg	VP4	Trinidad and Tobago
CX	Uruguay	LZ	Bulgaria	VP5	Cayman Islands
CZ	Monaco	MB9 (OE)	Austria	VP5	Jamaica
DL	Germany	MC1 (MD1, MD2, MT2)	Libya	VP5	Turks and Caicos Islands
DU	Philippine Islands	MD1 (MC1, MD2, MT2)	Libya	VP8	Barbados
EA	Spain	MD2 (MC1, MD1, MT2)	Libya	VP7	Bahama Islands
EA6	Balearic Islands	MD3 (I6)	Eritrea	VP8	Falkland Islands
EA8	Canary Islands	MD4 (MS4)	Somaliland, Italian	VP8	South Georgia
EA9	Morocco, Spanish	MD5 (SU)	Egypt	VP8	South Orkney Islands
EI	Eire	MD6 (XI)	Cyprus	VP8	South Sandwich Islands
EK	Tangier Zone	MD7 (ZC4)	Trieste	VP8	South Shetland Islands
EL	Liberia	MF2 (AG2)	Eritrea	VP9	Bermuda Islands
EP, EQ	Iran	MI3 (I6, MD3)	Oman	VQ1	Zanzibar
ET	Ethiopia	MP4 (VS9)	Somaliland, Italian	VQ2	Rhodesia, Northern
F	France	MS4 (MD4)	Libya	VQ3	Tanganyika Territory
FA	Corsica	MT2 (MC1, MD1, MD2)	Guantanamo Bay	VQ4	Kenya
FB	Algeria	NY4	Peru	VQ5	Uganda
FB8	Madagascar	OE (MB9)	Austria	VQ6	Somaliland, British
FB8	Togoland, French	OH	Finland	VQ6	Chagos Islands
FB8	Cameroon, French	OK	Czechoslovakia	VQ6	Mauritius
FB8	French West Africa	ON	Belgium	VQ9	Seychelles
FB8	Gusdeloupe	OQ	Belgian Congo	VRI	Gilbert & Ellice Is., Ocean Is.
FB8	French Indo-China	OY	Greenland	VR2	Fiji Islands
FK8	New Caledonia	OZ	Faeroes, The	VR3	Fanning Island (Christmas Is.)
FL6	Somaliland, French	PA	Denmark	VR4	Solomon Islands
FM5	Martinique	PO	Netherlands	VR5	Tonga (Friendly) Islands
FN	French India	PJ	Netherlands West Indies	VR6	Pitcairn Island
FO8	French Oceania (e.g., Tahiti)	PK	Java	VS1, VS2	Borneo, British North
FB8	Miquelon and St. Pierre Islands	PK4	Sumatra	VS5	Brunei
FB8	French Equatorial Africa	PK5	Borneo, Netherlands	VS5	Sarawak
FR8	Reunion Island	PK6	Celebes and Molucca Islands	VS6	Hong Kong
FT4	Tunisia	PK7	New Guinea, Netherlands	VSB	Ceylon
FU8	New Hebrides	PX	Andorra	VS9	Aden and Socotra Island
FY8	Guiana, French, and Inini	PY	Brazil	VS9 (MP4)	Oman
GC	England	PZ	Guiana, Netherlands (Surinam)	VU	India
GD	Channel Islands	SM	Sweden	VU4	Laccadive Islands
GI	Isle of Man	SP	Poland	VU5	Andaman and Nicobar Islands
GM	Ireland, Northern	ST	Anglo-Egyptian Sudan	VU7	Bahrain Island
GW	Scotland	SU (MD5)	Egypt	VU7	Nepal
HA	Wales	SV	Greece	W (K)	United States
HB	Hungary	SV5	Dodecanese Islands (Rhodes)	XZ	Mexico
HC	Switzerland	TA	Turkey	YA	Burma
HE1	Liechtenstein	TF	Iceland	YI (MD6)	Afghanistan
HH	Haiti	TG	Guatemala	YJ (FU8)	Iraq
HI	Dominican Republic	TI	Cocos Island	YK	Syria
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I	Italy	UC2	Belorussia	ZB2	Malta
IS	Sardinia	UF6	Azerbaijan	ZC1	Gibraltar
JA (MD3, MI3)	Eritrea	UG6	Georgia	ZC2	Transjordan
JB	Japan	UH8	Armenia	ZC3	Cocos (Keeling) Islands
JT	Mongolian Republic (Outer)	UI8	Turkoman	ZC4 (MD7)	Christmas Island
K	See under W	UL7	Uzbek	ZC8	Cyprus
KB6	Baker, Howland and Am. Phoenix Islands		Tadzhik		Palestine, Arab
			Kazakh		

(Continued on page 12)

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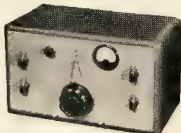
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# THE OLD MAN

Back in the days when lots of you young fellows were wearing diapers, we were working just as much DX with self excited oscillators and detector and audios, but in those days we acted like gentlemen. We did not swoop down upon a choice piece of DX as the other fellow was working and try and impose our signal on his, we waited until the QSO was completed and then called him from our own particular spot in the band. Personally I will not go back to a horde of signals calling me on my own frequency, but I will deliberately pick the station calling away from me, if we all would adopt this practice it would soon put an end to this modern idea.

Don't get the idea that I think the old timers are blameless. From some of the quality I hear emanating from fellows who have had their call for many years, it would seem that they need to revise their knowledge of filter circuits and types of modulation. This is a bad state of affairs, it seems to me that as old timers it is up to us to set a standard for the young fellows to copy.

Thank Heavens we, as a majority, still speak the King's English. Just where did this abomination "MATTER" come from? "Let's have a 'matter' about it." If you wish to have a yarn with a fellow, for the love of Mike say so and if you want to discuss something, let's discuss it. If we Amateurs are to be judged by the stuff we put over the air, it is up to all of us to improve ourselves in this respect.

Then there is the fellow who allows all and sundry to go over. Just recently I heard a station with a young child in the background who tried hard to at-

A little over twelve months ago "Grenlin" ceased to exist within the covers of this magazine. I promised in the May issue that a new author would appear in the June issue, but unfortunately it was not possible to use his material. From now on he will appear each month under the title **THE OLD MAN**.—Editor.

tract the attention of Daddy by making sundry remarks as "Daddy, pee pee; this went on for quite some time when the operator of the station said: 'Just a minute old man, I'll have to attend to something.' It was amazing to me that he wasn't going for the floor cloth.

The idea of this column is to bring to your notice, things that perhaps you haven't noticed yourself doing and if you receive a personal mention, remember it was done to try and improve your transmission. Don't start crying and moving Heaven and Earth to have "The Old Man" removed from the magazine as you did with "Grenlin." "The Old Man" has a thick hide, toughened by years of contacts with all and sundry and he will NOT answer letters of protest in these columns, so save your ink and paper and when your temper has cooled down resolve to mend your ways.

Our latest menace is frequency modulation and from the stations I have heard using it so far, it would be much better for them to go back to amplitude,

if they can't remove the colossal amount of hum being mixed with the carrier.

For the best CQ merchant of the month, I dips my lid to VK2WF who was sending dozens of CQs without a call sign, and for the Ham with the worst key clicks I nominate VK3ACI.

I presume VK3BU is no gentleman he was heard as large as life in the 7000 to 7030 Kc. portion of the 40 meter band on telephony. I seem to recollect that we gentlemen did agree to reserve this portion of the band for c.w.; you might also sign your call occasionally VK3BU, instead of working cross-band without an announcement.

To VK5PH I present the palm for the signal with the largest amount of splatter. Why not a check some time with a Ham who will give you an honest report. Whilst on this subject fellows, please, when asked for a critical report, give a critical report and not the tongue-in-the-cheek type of thing one so often hears. If it hurts the other fellow it's just too bad, if he is the right type he will thank you and immediately set to work to correct the wrong.

From VK2ANF emanated the following, and I quote: "Oh I never call CQ, I just pop into the middle of a QSO when my friends are going." The Department have expressed their views on this sort of practice in no uncertain matter, perhaps it would be wiser VK2ANF to switch on and make the remark that it was VK2ANF testing who could then be invited into the contact.

From the June issue of the magazine, I see that my South Australian friends have dealt with VK2JP, you beat the gun fellows. Cheers until next month.

## MAGAZINE CONTRIBUTIONS

In order to avoid confusion and enable the forwarding of articles in an orderly basis, the Magazine Committee have drawn up the following set of regulations.

Contributors, particularly those of a technical nature, are requested to read the regulations carefully and to forward their contribution in the manner set out below.

1. Writers of articles are requested to forward their manuscripts to the Sub-Editor of their Division. (See heading of Divisional Notes for address).

2. Sub-Editors to forward articles to the Editor as soon as possible. In some cases articles have been held for several weeks before being forwarded with the Divisional Notes.

3. The Secretary of the Victorian Division will acknowledge receipt of the article as soon as received. Acknowledgment will be forwarded to both the writer of the article and the Sub-Editor concerned.

4. Articles which are considered to be unsuitable for publication will be re-

turned to the Sub-Editor with a covering letter. Should an article require amendment before being published, or if it is to be held for any lengthy period, the Sub-Editor will be notified.

5. Should an article be forwarded direct to the Editor, acknowledgment will be made to both the author and the Sub-Editor.

6. It should be noted that the normal delay for drafting, block-making and type-setting is about six weeks. Articles and blocks have to be in the printer's hands not later than the 5th of the month prior to the month of publication and the shortest possible time in which an article can be published is approximately three months.

## NEWS FROM MACQUARIE ISLAND

The following may be of interest to those who have been fortunate enough to contact the Macquarie Island boys—or those still trying to.

VKIADS says he is not interested in DX although he has worked quite a

few DX stations on 14 Mc. phone. Countries worked include W, VE, KL7, G, GM, EI, YJ, CX, XE, HK, J, and ZL.

Ron also stated that he was not interested in c.w., his reason for moving down to 7 Mc. was lack of signals on twenty. He found all VK signals, with the exception of VK7s, were around the S3 level. VK7s were usually 3 to 4 points stronger. Strangely enough, most signals, even at S3, were readability 5.

VK1RD got his 50 Mc. beam up on the 28th May and is hoping it will stand up to the strong winds. Brian's 50 Mc. converter got knocked about on the trip down, but he thought he had it working again and had just finished it when QSOed on 27th May.

VK1AJT.—This station has been heard on 14 Mc. c.w. early in May with a chirpy note. Was working hosts of W stations. Gave his home QTH as 56 Leonora Street, Sth. Como, Western Australia.

VK1ADS says he will QSL on his return home although already his YL is beginning to wonder if she will see much of Ron even next year—and the QSLs are still rolling in.

## REMEMBRANCE DAY CONTEST 1949

The Remembrance Day Contest is an Australian Annual Contest to perpetuate the memory of those Australian Amateurs who gave their lives for their country during World War II. It is held on the week-end nearest to the 15th August in each year, the date on which hostilities ceased in the S.W.P.A.

A handsome Perpetual Trophy is awarded annually for competition between States, and is inscribed with the names of those who gave their lives, so perpetuating their memory throughout Amateur Radio in Australia. The name of the winning State for each year is inscribed on the Trophy.

## RULES

1. The Contest will commence at 1800 hours E.A.S.T. on the 13th August and continue through until 1759 hours E.A.S.T. on the 14th August, 1948.

2. The Contest is open to all Australian Amateurs, but only members of the W.I.A. are eligible for the awards.

3. The Contest is an open contest—c.w., phone or a combination of both may be used.

4. The Contest is an Interstate Contest, and Amateurs in each State will endeavour to contact Amateurs in all other States.

5. A station may be operated by more than one operator provided that a separate log is entered for each operator under his own call sign.

6. All present Amateur bands may be used, and all transmissions must conform with the Regulations as laid down in the P.M.G.'s "Handbook for Operators of Amateur Wireless Stations," January, 1948. Any breaches of these regulations will lead to the disqualification of the station concerned.

7. The arranging of schedules for contacts on other bands will not be permitted.

8. All stations entering the Contest will call "CQ RD" if using c.w., and "CQ Remembrance Day" if using phone.

9. A State competing for the trophy must submit a minimum of six (6) logs from members before becoming eligible for contesting the Trophy.

10. Only one contact per station per band is permitted.

11. Each participant shall assign himself a three figure number. When more than one operator operates the same station, each must assign himself

a separate three figure number. To facilitate checking of logs, competitors are urged to use three figures which are not the same—serials such as 111, 222, etc., are to be avoided.

12. The exchange of serial numbers shall be as follows: The first three figures are those chosen in Rule 11 above, and will be retained throughout the Contest; and the second three numbers will commence with 000 for the first contact and for subsequent contacts will be the FIRST three numbers of the station of the PREVIOUS contact. A complete exchange of signal reports must also take place before any points may be claimed for the contact.

### SCORING

13. In order that an equitable distribution of points for States with a large number of contest stations to a State with fewer contact stations may be determined, a sliding scale of points has been allotted as shown in the Scoring Table appended.

14. In addition to the points in the Scoring Table that may be scored, a bonus of 25 points may be added to the total score for each State worked on 50 Mc. or above.

**LOUIS**

15. The log submitted must show in the following order: Date, Time (E.A. S.T.), Station Worked, Band, Type of Emission, Signal Report Sent, Signal Report Received, Serial Sent, Serial Received, and Points Claimed.

16. A Statement signed by the operator must be attached at the conclusion of the log, stating that the Regulations (Rule 6) and these Rules have been observed. Any logs departing from this form will be automatically disqualified.

17. All logs must be forwarded through the Contestant's Divisional Council (for membership checking) to reach Federal Executive, Box 2611W, G.P.O., Melbourne, on or before the 5th September, 1948.

#### AWARDS

18 Attractive Certificates will be awarded to the First, Second, and Third Highest Stations in each State. There shall be no outright winner for Australia. Where a large number of logs are received from any one State, further certificates may be issued at the discretion of the Contest Committee.

## TROPHY

19. The State to which the Perpetual Trophy is to be awarded shall be determined as follows: The logs of the six (6) highest scorers in each State (see Rule 9) shall be averaged. To this average shall be applied a multiplier which shall be formed by taking the total log entries from a State and dividing by the total number of licensed Amateurs in that State at the date of the Contest.

20. The logs which will be accepted for the multiplier as determined under Rule 19 shall show at least five (5) contacts in the Contest.

21. The Trophy shall be forwarded to the winning State, in its container and will be held by that State for a period of 12 months, when the winner for the succeeding year is determined.

22. The Contest Committee shall be the sole adjudicators, and their ruling shall be binding in the case of any dispute.

## LIST OF COUNTRIES BY PREFIXES

(Continued from page 9)

ZD1	0 0000 0000 0 0000 0000 00	Sierre Leone
ZD2	0 0000 0000 0000 0000 0000	Nigeria
ZD3	0 0000 0000 0000 0000 0000	Gambia
ZD4	0000 0000 0000 0000 0000 00	Gold Coast (Br. Togoland)
ZD6	0000 00 0000 0000 0000 0000 00	Nyasaland
ZD7	00 00 0000 00 0000 0000 0000	St. Helena
ZD8	00 00 0000 00 0000 0000 0000	Ascension Island
ZD9	0000 0000 0000 0000 0000 0000	Tristan da Cunha and Gough Is.
ZK1	0000 0000 0000 0000 0000 0000	Rhodesia, Southern
ZK2	0000 0000 0000 0000 0000 0000	Cook Island
ZL	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Niue
ZL	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	New Zealand
ZM	0 00 0000 0000 0000 0000 0000	Samoa, Western
ZP	000 0000 0000 0 00 0000 0000	Paraguay
ZS	0000 0000 0000 0 00 0000 0000	Union of South Africa
ZS2	0000 0000 0000 0000 0000 0000	Marion Island (Prince Edward Is.)
ZS3	0000 0000 0000 0000 0000 0000	Southwest Africa
ZS7	0 0000 00 0000 0000 0000 0000	Swaziland
ZS8	00 0000 00 0000 00 0000 0000 00	Basutoland
ZS9	00 0000 0000 0000 0000 00 00 00	Bechuanaland
ZX4	0000 0000 0000 0000 0000 0000	Israel

### COUNTRIES WITH NO ALLOTTED PREFIXES

Aldabra Islands  
 Antarctica  
 Bhutan  
 Clipperton Island  
 Comoro Islands  
 Easter Island  
 Galapagos Islands  
 Guinea, Spanish  
 Ifni  
 Jan Mayen Island  
 Kerguelon Islands  
 Kuwait  
 Maldives Islands  
 Principe and Sao Thome Islands  
 Rio de Oro  
 San Marino  
 Tokelau (Union) Islands  
 Wrangel Islands  
 Yemen

### SCORING TABLE

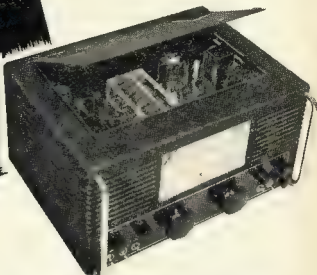
		TO							Total
		VK2	VK3	VK4	VK5	VK6	VK7	VK9	
FROM	VK2	-	1	2	3	5	4	6	21
	VK3	1	-	3	2	5	4	6	21
	VK4	1	2	-	3	6	5	4	21
	VK5	2	1	2	-	5	4	6	21
	VK6	2	2	1	4	-	5	6	21
	VK7	2	1	3	2	5	-	6	21
	VK9	1	2	3	4	5	6	-	21

NOTE.—Read the Table from Left to Right for points for the various States.

### EXAMPLES—

a VK2 scores	1 pt. for VK3 contact	a VK6 scores	1 pt. for VK2 contact
2 " " VK4		2 " " VK3	
3 " " VK5 " etc.		4 " " VK4 " etc.	

# BOTH PROFESSIONALS AND AMATEURS WILL THRILL TO THE FAULTLESS PERFORMANCE OF



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# FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

The most interesting news this month is comprised of two items from Victoria, namely, the Victorian V.H.F.-U.H.F.-S.H.F. Marathon, and the Mornington Peninsula Sub-Branch Field Day V.H.F. activities.

## VICTORIAN V.H.F.-U.H.F.-S.H.F. MARATHON

It has been decided with a view to the stimulation of interest in all the bands above 50 Mc to hold a Marathon Contest. The rules of the Marathon have been worked out and points allotted with the idea of not only encouraging activity on the bands at present widely populated, but to promote the building of new bands and general exploitation of the frequencies above 50 Mc, and the frequencies best suited to these bands.

We would appeal to all Amateurs to give the Contest as much support as possible, this does not imply only to those already in operation on the various V.H.F. and U.H.F. bands, but also to chaps who have so far confined their interest to the d.c. bands. Get some gear going and join in the fun, also do not forget that you stand the chance of winning a very worthwhile prize.

### Rules of the Marathon

(a) Duration.—The Contest will run from 0001 on 1st August, 1949, to 1159 on 31st January, 1950.

(b) Contacts.—Every contact made counts towards the final score with the restriction that only one contact with any one station per band per day will count, unless location has been allotted.

(c) Scoring.—The following system of mileage and points will apply—

50 Mc.	288 Mc.	0-10 miles	1 pt.
0-60 miles	1 pt.	0-10 miles	1 pt.
60-90 " "	2 "	10-30 " "	2 "
90-120 " "	3 "	30-40 " "	3 "
120-400 " "	4 "	40-60 miles up	4 "
400-1300 " "	5 "	60-80 miles up	5 "
1300-1500 miles up	5 "	80 miles up	5 "
144 Mc.	0-5 miles	0-5 miles	1 pt.
0-30 miles	1 pt.	5-10 " "	2 "
30-60 " "	2 "	10-30 " "	3 "
60-90 " "	3 "	30-60 " "	4 "
90-120 " "	4 "	60-90 " "	5 "
120 miles up	5 "	90 miles up	5 "
1215 Mc. and up—Each band same as 576 Mc.			

Some of the points allotted for different distances on different bands may look a little odd, so a few matters will be explained. First, the drop in points on 50 Mc. for contacts in the range 400 to 1800 miles is due to the fact that contacts in this range would be mainly single hop Sporadic E, which are relatively easy to make when conditions are right, the points allotted should not be so high as for the more difficult trans-horizon beaming contacts. If you make a contact by Sporadic E under 400 miles, that is your good luck and the score shown in the table for such a distance may be claimed.

On 144 Mc., there is a fairly wide gap from 10 to 40 miles, (it is felt that contacts in this range will mainly be made by stations operating portable, when little difficulty is experienced in covering this distance with good signals).

(d) Multipliers.—50 Mc., 144 Mc., 1, 288 Mc., 1, 576 Mc. & 1215 Mc. and above—each and 3.

A word of explanation regarding the use of these multipliers would not go amiss. The multipliers for the various bands worked are added together and the score obtained from the mileage points scale multiplied by the sum of the multipliers.

Thus if a station worked on 50 and 144 Mc. he would multiply his score by 1 plus 1, i.e. 2. If he worked on 576, 676, and 10,000 Mc., he would multiply the score by 1 plus 2 plus 3, i.e. by 6.

(e) Prizes.—Really worthwhile prizes will be offered for the following categories—

- Open a first and second prize will be given.
- 50 Mc.—one prize.
- 144 Mc.—one prize.
- 288 Mc.—one prize.
- 576 Mc.—one prize.
- 1215 Mc. and above—one prize.

In addition a prize will be awarded for the best score turned in for stations located more than 25 miles from the G.P.O. Melbourne.

(f) Checking of Logs.—The date by which logs must be turned in for checking will be announced in a later issue of "Amateur Radio."

## MORNINGTON PENINSULA SUB-BRANCH FIELD DAY—V.H.F. ACTIVITIES

Several stations operated portable on the V.H.F. bands on the Sunshine Coast during the 29th and 30th May. All were in the Mt. Martha area. Stations out were 3RR, with 3AJH and 3ACL as general advisers and log keepers, they worked on 50 and 576 Mc. 3ANW worked on 55, 144, and 576 Mc., and 3AEE worked on 576 Mc. Both stations working on 50 Mc. had quite a number of contacts on the band, and 3ANW had a contact with 3ARR on 144 Mc. 3AEE worked on 576 Mc. 3AEE and 3ANW and 3RR both put in signals up to 304 in Mt. Boorne, a distance of about 25 miles. Unfortunately, two way contacts were not made over this path.

## NEW SOUTH WALES V.H.F. SECTION MEETING

There was an attendance of approximately 10 at this meeting, held on 10th May. Mr. A. Robertson (3DZ) delivered a lecture on "Antennae and Feeders." The presentation was splendid and followed by the intense interest and battery of questions after the lecture, it was plainly indicated that Mr. Robertson had all the answers. Other matters dealt with were: W.A.S. 50 Mc., stability of transmitters on 144 Mc., and a discussion on the May V.H.F. Contest.

### 50 Mc. DOINGS OF THE MONTH

New South Wales.—Generally speaking the band has been very quiet. The old gang making the band to be heard occasionally. 2ADT, 2AL, 2RI, 2VY, 2LY, 2ABO, and 2ABG were active. The band is used mostly for cross-band contacts during which tuning up and antenna tests etc. are carried out. 2ADT has been heard cross-band with 2AH on 144.5 Mc. almost nightly for three weeks. This distance of 70 miles is over a 1500 feet rise. On the previous 2ADT 2AH was heard on 144 Mc. 144 Mc. These contacts are most interesting as they seem to be entirely dependent on temperature inversion. The L.I. over this path has been established by courtesy of 2NR, the station following the night's contact. Comparisons of signal strength indicate both contacts have occurred when the L.I. has been below 1800 feet. It does this add up to the height of the intervening range of hills which are 1550 feet approximately?

The gear used may interest readers. 2ADT has an A.S.V. receiver, a 20 Mc. crystal, and a condenser on his all band job. The coupling is a zero! Jack simply opens the i.f. gain on the A.S.V. and tunes to the 29 Mc. (approx.). The selectivity this way leaves the noise building stations a cover 3 feet with 300 ohm ribbon. His transmitter (pending arrival of 810B) is 8 Mc. crystal, 35-61.6-322. The 812 tripler to the band. Jack prefers the reception method mentioned above to the results obtained from a good P2B receiver.

2ABG uses a converter with two 954 r.f. stages, 54A mixer, 955 oscillator, and 9 Mc. i.f. into communication receiver with crystal and double conversion. Antenna is 20 feet with P210M and trombone. His transmitter is 8 Mc. crystal, 155.5 tripler etc., 6A07-815 (50 Mc. xmitter), 812 p.p. 810B. 2ABG has two stations in inland Australia 207. ARS. Both stations are inland 2ADT being about 20 miles and 2ABG about 12 miles. Horizontal polarisation has been used at both ends. When conditions are 2 metres, Q on one hand would not necessarily affect the other. Signals have been quite good on cold nights. Heavy cloud bands have reduced signal reports.

On 50 Mc. news seems to be very scarce. Much re-building and antenna alterations in preparation for the August-September 6 metre Contest is going on. New stations being 2UD and 2ABW.

Victoria.—There are a few DX contacts to report this month. First at 2000 on the 14th May, 3BD worked 2KE, and 3RR heard 2KE and 4BT signals. On 20th May, 3BD worked 2KE and 4BT signals. The 20th May from 1015 to 1045 3RR worked 4BT. Signals were peaking 58.

Some interesting extended ground wave work has been achieved by 3ACL of Red Hill who has put a signal across to 7RL in Stanley, a distance of about 180 miles. So far 7RL has not got a transmitter going, so the work has been cross-band. 7RL received 5.5 Mc. 3ACL's signal. 7RL were reported as 1M, 55-7, 3ACL has also carried out tests with 7AB, and has heard his carrier weakly, but has so far been unable to make a contact with him.

3OD, formerly of Heatham, has moved to Mt. Eliza and has apparently picked another good location, finding by the strong signal he is putting out. 3OD has a 200 ft. antenna, 35 ft. high, so we can only guess what his signal will be like when he gets it up to 50 feet.

SVT, of Red Hill, has re-built his rig and now has 7.5 in the final running up to 10 watts put, and this has improved his signals very much. Rex and Gwen are not on the band very much now as they are busy clearing land for a new house.

The usual stations have been keeping the band alive in Melbourne, but there is still plenty of room for newcomers.

As the mid winter Sporadic E peak is approaching we must remind interstate stations that 3BQ and 3RR are on the band at 1800 and 1600 every day, and the band is very active when they are on. There are certain signals at these times. May, Dick watch the band at other times as work permits.

Mortality rate of Victoria's "V.H.F. hachelers" took another sharp rise on 31st May, when Geoff Wockley, 3BY and 3AYJ took the plunge. Congratulations Geoff.

Western Australia.—It is now known that 6DW at Bruce Rock has made a two-way contact with another VK6. On 12nd May, 6LW en route to Perth from Kalgoorlie, broke his journey at Merredin, some 50 odd miles from Bruce Rock, got out his 50 Mc. rig, and after a few hours of terrible blizzards, and made contact with 6DW. Nice work Wally and Don. This brings 6DW level pegging with a few VK6s for W.A.S. on 50 Mc.

6LW in Cottesloe (Perth) and 6GR (Harvey), about 80 odd miles apart, made two way contacts on 13/5/49, and on a few occasions since then, but conditions have been very poor and communication difficult.

No DX stations have been heard in Perth. For one thing, the metropolitan area has again been suffering from power restrictions from 10/5/49 to 10/5/49. During these restrictions, activities are about 100 miles from Albany had no 50 Mc. contacts during May.

It is a great pity only so few Amateurs in VK6 take interest in the 50 Mc. band. There are quite a few Amateurs within 150 miles radius of Perth, and the field is open to 50 Mc. The field is open in this State. Of what use is the 40 metre band during winter months after sunset for short haul work?

The 40 metre band is not much better, what with QRM, etc. None of this trouble occur on 50 Mc., up to a distance of 85 miles; this we CAN say. Beyond 36 miles, we cannot say yet, because there are not enough Amateurs on the band, and the field is open to 50 Mc. If the "know how" is required, there is always 6GH (Harvey) 6DW (Bruce Rock), 6DQ (Minding, W.A.) as well as 6RI, 6OP, 6PC, etc. in the metropolitan area, all of whom would be very pleased, and indeed, anxious to co-operate and give a hand in any way to get on 50 Mc.

Tasmania.—7BQ and 7LE have been cranking up on 50 Mc. in preparation for the summer openings, their ambition being to work into VK1. 7BQ is running a 525 crystal on 5 Mc. driving a 512 p.p. 7LE has a crystal rig with an 897 in the final and is trying the much-discussed "wood beam." Both stations are using converters.

### 144 Mc. ACTIVITY

New South Wales.—The 2 metre Contest ended with a clear lead for 2ABD. Norman had nice crystal signal from 522 and corner reflector. His receiver was also excellent, having a 323 with 625 grounded grid, 5AK5 and 5AL, 5AL with 522, with a 522 transmitter and 4 element Yagi, came next. John used A.S.V. receiver with 8 Mc. i.f. and double conversion when he got his 3RD. 3RD did score over 1,000 points from "Hart Oliver" (HED). This location looks hopeless. Roy uses a P2B type receiver, 525 crystal, 5AL, 5AL with 522, 522 amplifier, antenna is a 3 over 3 beam. 2AQ has converted 812 receiver using two 624 r.f. stages, then 5AK5 r.f., 5AK5 mixer, double conversion. 2AQ has a 525 crystal on 5 Mc. driving a 522 p.p. ratio on 2 metres. Transmitter is a.c. with 425B and linear tank; beam 3 over 3. 2AZ has nice phone and m.c.w. from 71145. 2AZ has built a 525 crystal on 5 Mc. driving a 522 p.p. ratio and transmitter. Major will get plenty of 5 metre contacts. Dave, 2KE, threatens to come on 50 Mc. The Sydney 2 metre gang would go beams north or nothing when he does.

The 2 metre Contest showed up many things. Lessons learned were that receivers are very much down in serviceability. Polarisation can be changed and the band is very active when they are on. Double crystals are too numerous. Modulated conclusions can cause plenty of strife for power output.



Generally though it was the receivers which let us down. The ideal for progress would be all possible conversions expected with 4-5 stages and crystal controlled transmitters. But our field days demand something simple and less selective. One who's man has an f.m. receiver especially for reception of mod. osc. Super-regen receivers are hopeless when a strong carrier comes on. As nearly 40 stations were on during the Contest, the difficulties can be easily imagined. The transmitter for 144 Mc. by VK3JD illustrates how simple this is and is. The receiver unfortunately awaits solution.

SAR encloses a list of stations worked on 144 Mc. during the May W.L.A.V. Contest by 2ANB and 2WJ totalling 48 and 50 respectively. Ample evidence of 144 Mc. activity in N.S.W.

Victoria—Activity has been rather slack on the band during the past month with the usual regular preventing the band from becoming quite dead. The only new station to appear being 2SR, but details of his rig are not available at the moment. 2SR is active again. George has rebuilt his gear and is putting out a very much improved signal.

32L's tough line converter continues to prove a very valuable standard of comparison for Melbourne stations. The latest to try the converter has been 2XW who finds results much the same as his own receiver which is a GAKS vt into a converted English dipole receiver using an EP24 as mixer. 2XW's last post from Towse was on the 29th of May and worked 3ARE in Geelong over a distance of 108 miles. This represents one of the best 4-distance worked on the band for some time.

32L in Ballarat continues his duel with 3ABA, across-band to 50 Mc. while his converter is in Melbourne, and signals are consistently good. The Melbourne gang are waiting for some more country stations to get on the band. It is reported that 3K3 in Colac is getting gear together. This should provide another interesting path.

Signals from stations up north, such as 3UI or 3APF would be appreciated on the band. Contacts should be possible over this path judging by their good signals on 80 Mc.

Tasmania reports very little activity this month except for the attempt by 7YH to contact the Launceston 144 Mc. pass from Melbourne and still away. Signals from Launceston have been heard over similar distances before, so perhaps he may get through yet.

7AJ is out of action at present. Athol is building up a new receiver. It will be a superhet with super-regen. detector in i.f. channel. The offer made by 1DR in last month's "Amateur Radio" still stands. The 144 Mc. gear at Romy consists of 826 34 Mc. crystal osc. and doubler, 620 tripler, 828 p.a. Receiver is a super-regen. Antenna is a folded vertical dipole; a ground plane will go up shortly.

#### 288 Mc. IN VICTORIA

No activity has been reported on this band to date, but it is known that two or three stations have gear ready for operation. It is suggested that they get others get operating as this should prove an interesting band. Also don't forget the points awarded for contacts on this band in the Marathon.

#### 576 Mc.

At last we hear of 576 Mc. activity outside of Victoria. 3XX and 3DA have constructed a resonant cavity using a WE31A dual knob tube with 50 watts input. Receiver is a two tube super-regen. (2N365) and antenna is a 100 ft. wire with three directors. We hope to have further news for the next issue.

The 144 Mc. gang in Victoria have had another interesting month. Once again Ken, 3ANW, has carried out some interesting portable work, operating from Sassafras over the week end 14th and 15th of May. Ken worked 3IK with 89 signals both ways, 3QO with the same reports, and 3ABA with about 88 signals, however Jim's antenna is only 15 feet high, which accounts for the weaker signals. 3ARW was also heard at 89 by 3DA.

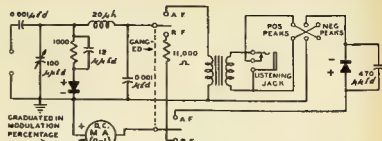
3ER now has a dipole antenna 48 feet high, cut for the band, but is still having trouble with it. The coaxial line is too long. However, the antenna is working out the troubles and should have it working well, before this appears in print.

3AHJ has built a converter using 6J6 push pull mixer and 6J5 oscillator and is looking for the right antenna. The main disadvantage is that nals, antenna is a vertical dipole at the moment, but a beam will probably come soon. Jack is waiting on 3LH for the transmitter.

3DK now has a 16 element beam (all elements driven) up about 30 feet. This has given great improvement in signal strength and pushes an 88 dBmV into about 100 miles away with several interesting signals. The main disadvantage is that the beam is extremely sharp and it is difficult to centre it on stations. In conclusion do not forget about the special 576 Mc. Contest commencing on 14th July.

Acknowledgments to VKs 3AH, 3DK, 3FC and 7DH for material used above.

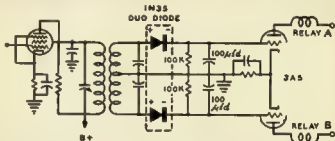
## Suggestions for use of Germanium Crystals



### PERCENTAGE MODULATION AND CARRIER SHIFT METER

Here is the circuit schematic for a complete modulation meter. The input terminals of this instrument are link-coupled to the plate tank coil of the modulated transmitter. With the ganged switch thrown to its r.f. position, the coupling between the link pick-up coil and the transmitter is varied, and the 100 pF. tuning capacitor is adjusted to detect the milliammeter to a reference

point near full scale. This reading will not change during modulation unless carrier shift is present. If the meter scale has been properly calibrated, modulation percentage will be indicated directly when the first switch is thrown to a.f. Positive or negative modulation peaks may be measured by throwing the second switch to either Pos. Peaks or Neg. Peaks.



### FREQUENCY-CONTROLLED DUAL RELAY SYSTEM

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We are indebted to J. H. Magrath & Co., of 208 Little Lonsdale Street, Melbourne, for the two above circuits.

In both circuit diagrams showing the Germanium Crystal, the bar of the crystal symbol represents the cathode. On each Sylvania Germanium Crystal the cathode side is indicated by a green band and the label "Cath."

The B.T.H. British-made equivalent of the 1N34 is equally effective in these circuits.

## PHILIPS' TELEVISION EQUIPMENT FOR DENMARK

Television transmitting and monitoring equipment has recently been supplied to the Danish Postal Authorities by Philips, Holland.

The equipment in use in Denmark is generally available and is rapidly gaining in popularity on the Continent. It has been developed by Philips to provide facilities for the training of technicians and programme personnel. This television demonstration equipment comprises a studio camera, film projection camera, television signal generator, monitoring arrangements, low

power transmitter, etc., together with an advisory service.

This equipment, which Philips have called "Teledem 1," can be supplied to comply with any specified standards and, without the transmitter, may be used to operate television reproducers by cable.

A similar but more elaborate television demonstrator with additional cameras and greatly extended studio facilities, etc., to which the user may change after having gathered sufficient experience, has also been produced by Philips.

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THE Contest, bearing in mind the worthy reason for its inauguration.

One major change has been made in the Rules in relation to determining the Perpetual Trophy. This Rule should encourage everyone to enter, for by his entry he will be contributing to his State's score, and will not feel it is just another Contest for the few who win year after year.

## FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Numerous enquiries have been received as to the reasons for the absence of Federal QSL Bureau notes from the past four issues of "Amateur Radio" and requests for their continuance. It is hoped that the Notes Editor will be able to find and maintain the space for their inclusion. (No copy was received for that period—Editor.)

In some districts of Vienna and in Lower Austria all letters from abroad are censored and in most cases QSL cards are confiscated. To avoid this, it is requested that cards for OE stations should not be sent direct but sent in care of the R.S.G.B.

Eric Treblenck, B.E.R.S. 135, is now located in Williamsdown, Victoria, after many wanderings through the various States of the Commonwealth. It is hoped that Eric will again become an active transmitter in the near future.

Writing under date of 27th April, Stan Mayne VK8AS states: "What is wrong with my VE calls? Out of 10 QSLs, I only got two back." Do the right thing cheap, Stan is on 7147 Kc. with 60 watts and hopes soon to be on 14 Mc.

The QSL address for licensed amateurs in Germany is Postbox 585, Stuttgart, Germany.

George Luxon VK6RX, the South Australian QSL Manager, has received his Certificate from EZ for contact with ten EE stations, and is the first VK3 station to qualify for the award which is issued by the Casual Zone Amateur Radio Association. Other Australian stations who have received the award are VK4 3D, 3FL, 3BZ. Three ZLs have also made the grade. The C.Z.A.R.A. also has a bigger and better Certificate for contacts with 33 NZ stations but so far no VE or ZL stations have made a claim.

VERAFY John Scott, 180 Dowling Avenue, Toronto 3, Ontario, Canada, sends on behalf of his

wife who is a keen philatelist and would like to get in touch with VE Ham who are bitten by the same bug. Mrs. Scott will exchange W and VE stamps for Australian stamps or will exchange VE and W magazines for Australian stamps. Mrs. Scott's name is Alyce.

Arthur Milne G6MI, in a letter to the writer, mentions that as QSL Manager, ably assisted by his wife, they get through up to 30,000 cards weekly. Arthur deplores the fact that this work restricts his activity on the air! He asks me to tip off the VK3 and VK6 managers to send their cards at commercial paper rates instead of letter rates and thus save their Divisions a fortune in postage. Arthur states that despatches at letter rates inevitably arrive at the same time as those sent at the cheaper rate.

My South Australian colleague, VK6RX, who has just received his A.R.R.A. DX C.C. Certificate and is highly delighted with it, points out that I have an exact mammoth in W land as the call book shows the license holder of VK6RF as Ray E. Jones. I must QSO that guy somehow, some day.

Any reader knowing of housing accommodation sufficient to cover the needs of a Czech Amateur, his wife, and two small children, should advise the Federal QSL Manager. The Czech, who is non-Jewish and an electrical engineer, was just about to migrate to Australia when World War II intervened. He is still extremely desirous of migrating here but the problem now is enhanced by the housing difficulties and the additions to his family.

## STATE QSL BUREAU NEW SOUTH WALES

J. B. Corbin, VK3YO, 78 Maleny St., Eastlake.

### MEMORANDA

Outward—Bring your cards into the General Meeting OR post to Outwards QSL Manager, Mr. P. O'Dwyer, 180 Thomas Street, Hampton, S.7. Price is 1d. per card. Cards to VES are free.

Inward—Collect cards at the General Meeting OR supply Inwards QSL Manager, Mr. G. Roper, 25 Lucas Street, Camisled, S.H.S. with stamped addressed envelopes.

### QUEENSLAND

Outward—B. Campbell, VK4RC, 80 Prospect Terrace, Kelvin Grove, Brisbane.

Inward—E. Lake, VK4EL, Old Cleveland Road, Camp Hill, Brisbane.

**SOUTH AUSTRALIA**  
G. Luxon, VK6RX, 8 Brook St., West Mitham, South Australia.

**WESTERN AUSTRALIA**  
J. Rumble, VK6RU, Box F219, Perth, W.A.

**TASMANIA**  
T. Allen, VK7AL, 6 Thirza St., New Town, Tas.  
**MORESBY AREA ONLY**  
G. Warner, VK6W, c/o. O.T.O., Port Moresby.

## NEW SOUTH WALES

The monthly general meeting of the Division was held at Science House, Gloucester Street, Syd. nry, on Friday, 27th May. PABCO headed the list of visitors, and after they had been welcomed by the President, the Federal Councillor, John Mayle 2JU, delivered his report to the meeting, on the recent Federal Convention in Melbourne. At the conclusion of his report, carried out in his usual efficient style, the meeting dealt with a query as to the validity of the recent ballot for a new Council. This developed into such a lengthy and, at times, heated discussion that insufficient time remained for the lecture by Rev. Williams, 2XV, on "Super Modulation." As this lecture had been awaited with great interest, disappointment was evidenced on all sides, and apologies were made to Mr. Williams, with the sincere request that he be kind enough to deliver his talk at the next meeting. Later, during general business discussions, various speakers made reference to the question of the Amateur position in regard to TVI, a matter of urgency with TV only a comparatively short time away.

### NORTH SHORE ZONE

2BQ has a new six metre beam, and was so anxious to get it going he hooked up a long length of 800 ohm ribbon as a feeder, draping it all over the garden, bushes, across the path, and up into the shack. On his first attempt, he worked 2LY at Katoomba, getting an 8S report! So why worry about having the federa in the clear. Congratulations to 2BQ, who pulled off a smooth one by snagging that old slant in the Argentine, 1AJ7A, on 80 metres. Very LB and how about the phone boys giving the c.w. DX men a bit of a go on this

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band now and again. They don't ask for much, and you phone kings have the major portion of the band as it is. So how about it, gang?

QOR has worked his first post-war Q on phone—it's not so long ago he was doing it out from G to VR as many of us remember. JAX is now having a hard time on six meters, and should snag a bit of decent DX on that band with his ideal antenna, which is on one of the high headlands along the coast. ZHR has his eye on transmitter design, and re-build. Guess this must be in the nature of a model, from resources. SPV station finished and most paired, and is at long last back in business—much means I am as well, since we have a rig. Long time no CW, too, since circumstances have kept us off for very nearly a year.

QGU may be working nearer to his home in future, which means another starter for the lunch time tangle exercises. QOO now has a QOR ahead of the receiver, and is in the seventh heaven of activity as a result. SAGW runs his own private-band service to G and with that GSPD gadget at his elbow no one else can hear 'em, he works 'em. Well, there's about all this month. I'd certainly appreciate hearing from some of the gang in the Manly-Warringah area, also from someone to Horsey way. How's about it, anybody with a pen?

#### EASTERN SUBURBS ZONE

2AX will be off for a while as he is going South on a duty assignment in the near future. Andy's helpful and semi-technical matters will be missed for he has an unusual knack for putting his finger on the spot when the boys get into trouble. SCF finally finished the new receiver and is back on the air—after three months' absence. There is more than a suspicion that Yia has as much to do with his absence as the receiver. SAGW has completed his new frequency meter and is busy calibrating. SBY is a wily, not about much these days. QGY possesses 8W, class 40 metre phone and contemplating a lot of re-building in the immediate future.

2AGU still searching for 40 metre c.w. contacts. 2AIHQ not heard these days. Has had frequent attacks of "flu" which have prevented him from taking on the super 72 he has just completed—100 watts input—all stages are c.w. excitors, 19 x 8½ amp. a first class job. Congratulations to Ted, on the arrival of the new junior op. 2ND heard from time to time putting constant size into it. How did your "props" take it in the recent days, 40.1? This is what you must expect for possessing the best and possibly highest, transmitting location in the metropolitan area! 2CR not heard for some time. That cock came to be a problem, AH, heard you shout it away from the mike but the old local WVV sig still creeps through the class phone and good operating are points at 2OE.

#### SOUTH ZONE

As the majority of Amateurs in this zone operate on the V.H.F. bands, the main topic of the month is the 144 Mc. Contest. Three local stations have

taken part and 2ANB and 2WJ are well up among the leaders. The six metre band has been very quiet and 2ABCC, 2WJ, and 2VW are the only locals heard.

The Kingsford Radio Club has at last managed to get a club room of their own and members are very busy fitting it out and getting the gear operating. By the time these notes are in print they should be heard on the air with the call 2ABCC.

ARI has been getting very good results with his two element beam on 20 metres and 2AB is also active on that band with a new transmitter. 2AC has been spending his time dodging between 20 and 40 metres and working his share of DX on both bands. "VW is his" putting up new tower and overhauling beams for the coming DX season. Two-watt consist of 4 element beams for 144 and 50 Mc, and 3 element on 20 Mc.

Not much heard from 2ABC as he is busy building a new garage and workshop at week end and too cold in shack at night, in fact the cold weather seems to be keeping quiet a few of the boys by the fire. I see my power tranny to keep my feet warm.

#### DX NOTES BY VK2QL

Very little news this month gang, one reason being my own inactivity on the bands through force of circumstances, and the other no "gen" from the DX gang. With the exception of 5RX, have heard nothing of the gang's doings, and as I have not 5RX's letter with me at the moment, I cannot pass on his "gen," but many thanks O.M. So, just what happens to the column with no co-operation.

Congrats to 2RA, on contact with LA7AZ on 5.5 Mc. which gives him his 5th continent on that band. My apologies to 5EO, who has made W.A.C. on 3.5 Mc. I inadvertently omitted it from last month's notes. A fitting reward to some solid work on that band.

The bands have been very quiet for the month of May. I tried all bands except 30 Mc. when I was able to listen, and as predicted there was very little of interest. This was more or less expected from working out the prediction charts. Some peculiar effect should be noticed on 14 Mc. for June, when there is a possibility signals will arrive in Sydney via short and long paths from some continents at approximately the same time of day. Talking to a ZL, one night on 5.5 Mc, he said VK sigs were not arriving by their normal path.

The gang should soon take one station off their "black list." FUSAA. He has received his 2,000 cards, and now has the mammoth job of getting them out, but mails are few and far between.

Cards received for the month, which may be of interest were FB8AB, 8JRWV, 2P2BL, W0CFK, F0RMA, 8H58, 8CBPM, UQ4AB, 8V4AA for 3.5 Mc.

2HZ still calling the blues in Zone 18 and 19 anything but gentlemen. Bad luck on those QSLs for your W.A.Z. Bill.

Finally, an appeal. What about adherence to the gentlemen's agreement re the clearing of the phone from the low frequency ends of the bands.

As has been proven, 3.5 Mc is just as much a DX band as the higher ones, and of course 7 Mc, but many contacts on these bands are spoilt for the c.w. men, by the large amount of phone. I have been making about 100 calls to 3.5 Mc, but this channel is often ruined by phone, so there is very little hope of hearing the DX.

P.E. is being asked to draw the attention of V.Z.A. to the above frequency ends of the bands for ZL co-operation as far as 3.5 Mc is concerned.

Well that's the lot, but once again, please, please, some material gang. My phone number again is LM 6861.

#### COALFIELDS AND LAKES

2RU trying out new gear on 144 Mc. 2AEZ says 14 Mc. quiet, also working on some new gear. 2AMU cramped for space, so re-designing shack with steel racks and distributing boards. 2HR, 1 hour and call you often on 40, listen for me towards end of month, re notes. The Wyong gang are apparently inactive at the moment as nothing heard from that area. 2AJB has consistent 40 metre phone sig.

Not much news from Singleton, but indication 2VU was doing some building and E2J active on 10 metres. 2TY keeps Leachman on the map on 10 and 5 metres. 2RK seems more interested in the local Warringah C.W. than in H.V. He has a layman. 2PZ well waiting for time to make some building progress, trying with possibility of 2, 2 metre band. 2VU, 30 watt's wrong, gave the game away. 2RX is active on 5 and 10 metres in the limited time he has, phone is quiet, good show days.

2NZ more or less given the game away; had modulation trouble, so may be heard pounding brass if the urge prevails! 2ADT very active with 144 and 50 Mc.; had cross-band QSL to Sydney, trying a 3 metre receiver out at moment and has a new beam on 144 Mc. 2VL progressing slowly with re-building should be active in few weeks' time.

In middle of May 2BR, 2KK, 2RU, 2ADT, and 2VL made another trip to Sydney Hama and wish to thank all Hama visitors for hospitality and helpfulness, with a special vote of thanks to 2KK, his wife and parents who kindly gave us accommodation.

#### NORTH COAST AND TABLELANDS

Much activity on 3.5 Mc bend by 2XO, 2AJH, 2ARV, 2JC, 2GI, 2OE, conditions have been excellent for ZL evenings and early mornings. 2JG using a new folded dipole with excellent results, much talk about starting on 7m. 2EB now operating in Melbourne near 2XO. 2CJF did not know he was there till told by one of the Sydney boys. 2XO visited Sydney and the west, travelling by car, kept in contact using a Type A Mark III.

2AJB may be moving to Coff's Harbour shortly. 2DE now proud owner of a 640, runs complete outfit from vibrator supply. 2ANF very active on

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at a Southern Malles township and very keen to have last minute broadcast on recent disposal. Connected up the Type A and clamped on the case only to be greeted with a solid whack of electrical interference. "A.C. noise", I muttered and promptly started up the bus and headed out of town. At half mile distance level of interference was unaltered so moved to 2 miles but trouble was just as bad. You see fellows, it's hard to get far from the electric clock on the dashboard when the receiver is sitting on the front seat—wouldn't it. Anyhow JIB's 16 signal on 80 pushed through R2, so I was happy.

SAGP is well again after bent in hospital and is out receiver rebuilt, Mark 7, or is it 8 Tom? Noe. SAJUI, extra should have "Clapp" v.f.o. humming 'tuo you, but as I believe his power supplies are ready, should hit the ether very soon. JGR after a successful month working DX on 20, has been on 40 phone, Max has a 610 for a really hot ground and when his 8C453 materials, the receiver will need boiling down and how!

STJ still not progressed from the antenna raising stage, too had a much of your time in labrum up local p.a. work. Charlie DB. SAGY is pushing out a nice sig on 40 and is a really f.b. operator with good buzz-on-like flat, "Clapp" v.f.o. used here. Code practice class got off to a good start here with five keen students of the art. Bad weather has caused attendance to suffer those past two weeks, but your scribbles has no doubt that they will all be into it again now that the rain has passed.

#### CENTRAL WESTERN ZONE

SARP's pet tree was chopped down last week. As Keith you soon have to start digging and getting the pole-crow lined up, 80 odd feet of tree is almost sure to be weighty, however it will be very nice when erected.

A scratchy disposal round-up went off very nicely this time, our good friend John, being in Melbourne, offered to pick up for the boys. Time was short, but some terrific stuff was found things up and down quite home with a high percentage of the boys, John, by the way, besides deserving our thanks, also merits our congratulations, as he has put his foot on the first stone towards a married life (better start training her early, John).

SAJIM is now busy looking over the inside of a RA109FA receiver and command transmitter, both nice jobs Bob and should work out GE. SAKW is

also delving into a RA109FA, there must be something good about these jobs for them to be as popular. 3GN is heard more often these days on 40 and 80, and is brewing a n.b.f.m. lay-out for the 58 Mc. rig. 3RG is also examining a TGB unit, just what Allan intends to do with it we don't know, but guess it will have to wait until after cropping.

STY is very noticeable by his absence these days, must be all work and no play. SAGB is another elusive one, heard you on 80 one day Pete, and also on 40 occasionally, Pete seems to be interested in 50 Mc. converters, and their various and many uses. SDF is collecting cathode-ray tubes and now has his second VR139A, so Jim will soon be able to not only hear his pleasant voice, but see what it looks like also. SAKP is another of the look and hear boys. Keith got some most original patterns until it was discovered the tube was crooked. Zone took off on Sunday, 1000—1130 Mc at 10 a.m.

#### EASTERN ZONE

The results of the Eastern Zone Portable Contest are to hand, and we wish to thank SLD for checking the logs. QAG had sorted them all out. SABA was 1st with 114 points; SVL 2nd, 170 points; SWP 3rd, 106 points; 3RL 98 points; 3TH, 95 points; SALS, 76 points; SLY, 67 points; QZ2, 62 points.

SALA is to be congratulated for his fine effort. Ted is quite new to the game, yet he handled his gear like a veteran. SDI operated as a portable station on the Sunday afternoon, gaining 54 points but did not submit his log as a competitive station.

The last month has been an inactive one again, mainly due to an influx of new cars to the Zone, plus the after-effects of the Christmas. As has been ordered a holiday from Ham Radio, so Keith is busy erecting some more sheds in his back yard. We hope you are soon at again. Keith. SDI has been running in his new car with visits in Ham, including a trip to 6V/US. 8TH is motoring through the Omeo district on a fishing holiday, complete with a portable permit. We did hear you one Sunday in Gordon, but could not come on the air. SPR also had a holiday in the city. Ron is very pleased with the way his new 8er is working in his receiver.

SLI went out portable in the V.H.P. Field Day, with a quad for 6 metres that works better back-wards. Syd reported one QSO only, with SACL, though he had 5 and 1 metre gear with him. We are pleased to welcome SAST, at Lindcove, to the

Zone. Hope you find VK3 as good as VK3, OH! How about joining our knock-ups on 3850 Kc every Sunday night at 8000 hours?

SANG is building a new all band 11 tube receiver, incorporating plug in coils, back-to-back I.F.s. and all mod. cons. SIZ is still busy on his estate, Graham is country councillor, and will carry out his duties with his usual efficiency. 3WE has migrated to the lounge for the winter but hasn't quite sorted his audio out. SVI/US are inactive, being in the throes of house building, and chipping down trees, ready for their new business.

#### NORTH EASTERN ZONE

Your scribbles are sorry for lack of notes lately, but SAGB has been inactive, and as nobody sent does no notes. SAGB is looking forward to the election in July to get out of this job. SIB and STY were for a walk on a recent Saturday afternoon, returning about ten past six. It is not known whether they were celebrating something, or drowning their sorrow over disposals. SUI has changed to parallel: 80% final on six new. Allan's latest YL is Barbara Baker, 8011 Holy Cross, Los Angeles 45, California. Anyone wishing to cut him out, write to above address, or QSO W6BAL on ten phone. Allan also seems to go out (to the library, he says) a lot about 8 p.m.

SAPP so engrossed in radio he is forgetting messages. Peter has excellent phone modulation going on all bands, and a 80 watt modulator will be for sale soon. A new converter for ten is now going well. Although a chemist, Peter believes in whisky for colds.

SKR heard on forty with improved modulation from Class B 807A. Ken was trying to get little paper QSLs, with gillions on them. STY is improving now, and we hope is right by next Convention. SACK heard on 40 with excellent signal. SEZ has moved QTH next door to SAPP. SCN still starts a phone version of v.f.o. light whenever he needs a phone version now, and we hope is right by next Convention. SUI has re-building, v.f.o. and QRO (amiable chap) SFD still not on the air, but bought more gear.

SKR wishes to stand for secretary again as please support him in the elections. He has been an ideal secretary, and would be impossible to replace. SUI enjoys being president, and as he has had only six months, he should be supported for another term. We know he is a poor president, but we could do worse. It would be a good idea to make the president correspondent also, as at present he has nothing to do.

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at notes were written.

Ipswich Zone--We understand that a ship has been formed in Ipswich, but to date we have no details. What about appointing one of your number to supply us with information each month so that we can put a bit more news into these notes? 4LT is now very active on the 7 Mc. band and putting Coomunga on the map. Albert was the first VK4 to work VK1AD8 on the 7 Mc. band. 4LT is now waiting for the P.M.G. to shift telephone wires so that he can put up the famous LT vertical.

Well, here we are again, sit and well, fairly itching to write and write, but unfortunately there is nothing to write about. Due to a new editorial policy beginning this issue, all copy must be in VKS no later than the eighth of the month, and if it is any later than that, it will not be published. This of course cramps my style for this month very badly, as I can't cover the meeting (which is never held as early in the month as the eighth) nor can I write anything about the city chaps, as it is at the meeting I get most of my information.

SECRET - RESTRICTED

That young and handsome looking Associate member, Robert Turner (whom you will remember I made join the W.I.A. before he could step over the kitchen doormat to see my daughter) has rejoined the R.A.A.F. and is stationed at Laverton at present. I haven't been able to check up and see if he has been promoted yet, but I am sure that this young man, you will have to get my consent one day, and one of my conditions before I say you will be a complete pay-up of all outstanding subscription arrears, and the return of my daughter. My daughter has been interdicted against me, I am writing this and I have taken time out to give her a shipping with barbed wire. - (You've got the right idea "W.W."—the second "W" is for workers—no "W" for women) and the batchelor might be interested.—Editor.

As "Pansy" would say when he reads this, "the little bird" has been busy again—but it's too good to let pass. One SPB spends his Easter each year

\_\_\_\_\_

[illegible]

PERSONALITIES

Yet another personality departing our shores is 6MX who is going home to California. Milo's home call is W6MFP and all his W6 gear is ready for use just as soon as he gets into the shack. We'll be looking for you on 14 Mc. c.w. Milo.

Noticed 6WS at our last meeting—hadn't seen Skipper about for quite some time. 6NL has been listening to dreams of 6JW's new receiver. Val is not saying much, but we think he will soon be building a new one himself. Also with the new



receiver bug are 65N and 66C who have designed a beauty. Both these chaps have D6034! 61L has a new receiver for 10 metres. How is it going Chris?

EWG, of Albany, had a holiday recently. His XVI paid us a visit in Perth. Very pleased to meet you Grace and hope everything is going OK. EWG was also up town for a few days. The chaps gave us the good oil from Katanating at 6XP/ERT was another visitor to Perth on holidays.

Noticed 65N getting along Hay Street the other day, with a very big grin and a very big bunch of disposable gear under his arm. John looked as though he had bought it at half price! He had!! 65N has invested in a wire-recorder and is now building a rig for the beam. 65G has built a new easily does the wire break? Has 65F has some ideas for super-modulation and has gone into research for the winter months to hatch it out in the spring. 65H has the rig cranked up on 10 metre band, but conditions haven't treated him kindly. 65I has a new 40 ft. pole ready to put up. Did not think you had room for another one Neville! 65K working some rare DX as usual, but Tom is not satisfied with his 10 metre beam. He has a super sensitive field strength meter under construction.

65W will be quiet for a few months. You are not missing anything Ray—conditions are worse than in VK2. 65F is now using an HPO receiver. In between exams Fred takes the opportunity to do the beam. 65G has built a new modulator and now has audio to spare. What's happened to that S18 Leo?

65D heard with phase modulation on 10 metres these days. How's it going John? 67B has made up his mind to build a beam. 67C has built a 40 metre beam will multiply then Tom. 68C heard on 40 metre band (when power is available). 68W, of Kalgoorlie, couldn't catch elusive 68H when he was in the beam. 68I has built a beam. It appears very often these days—hope the exams are successful. Bill.

Here is a list of "haven't-beard-lately"s"—GEL, G6N, G6Z, G6W (Geraldine phone number), also G6B, G6D, G6X, G6F, G6W, G6E, G6K, G6C, G6R, G6T, G6H, G6K, G6L, G6W, G6N. Don't tell me my receiver is on the lo!

## TASMANIA

Although the attendance was not up to standard the first meeting of the Tasmanian Division, it was felt by all those who did attend that the evening was well spent.

The president welcomed Mr. J. Batchler (7YL) who I believe has been asked to become a member and by the way boys, it has also come to my notice that VK7YU's QSLs are again in circulation. How many did you distribute out Joy?

After the business of the general business, 7AF gave a very interesting description and demonstration of his method of converting the D6034A (Grouseley) Transceiver. A good job Bob and if I may be permitted to say, you did remarkably well to get all that gear in such a small space.

7YL, 7JB and myself made a visit to 7AJ's home on a recent Sunday morning and had no difficulty in finding the place because if any self respecting amateur has a wire beam, they will be bound to have a second glance, I would suggest a visit to an eye specialist. Yes, OMs (and Yls) really a sight to behold. A three spaced 3 element on twenty feet with the slightest suspicion of a beam in the elements and only supported by about eight feet in the centre, beautiful! The elements themselves are made from three foot sections of 3/8 gauge GI rolled into tubes and are tapered from about 3 inches in the centre to three quarters of an inch on the ends. The tower supporting this effort is a wooden mast with a 100 lb. wire and a horizontal borer, and two drill pieces all his own make and design. He has also built among many fine pieces of radio gear, a 100 ohm line, a 15 m. talkie projector, disc recorder, and last but not least a 6 inch reflecting telescope, and if that's not versatility I don't know what is!

I also paid a visit to 7EJ—last week I built some consideration and drawing of plans I built a shelf under the bench to lay out some radio gear

which was under the aforesaid bench in an apple case. Well the shelf is one hundred per cent. but what I want to know now is how to get the apple case out—go, I know, it's built in!

## NORTHERN ZONE

The May monthly meeting of this zone was well attended and after the business of the evening was concluded our youngest Amateur, Mr. Peter Frith, gave an interesting lecture on transmitter construction. It is very gratifying to see such a young Amateur interested enough in the Institute to plan such a lecture and the way which it was delivered shows that Peter had given much time and thought to the subject.

This month I have to report the loss of one of our zone members, 717P having left us to become a VK3 again. The best wishes of all our members go with you Les and we are looking forward to contacting you at 7 Mc.

There is still very little activity to report. 7DB is busy building himself a house and is therefore not very active (on Ham Radio). 7BQ still keeping Sunday morning sheds on 7 Mc, also getting on to 80 Mc. again. 7BK now has some very nice phone, but is still chasing DX on c.w., so that he can get his 100 countries confirmed. 7DB is active again having been off the air whilst changing his place of abode. 717P is still taking things quietly. Probably caused through lack of DX, is on 80 Mc. occasionally with 7BQ. Still no news from 70D, 7AB and 7XU.

DX appears to have reached an all time low over the WY, June period. The best worked here were G6GOU, VP4TB, LX1AS, and VP4JB, all on 4 Mc. 7KAI also on 14 Mc. has been very constant and of the afternoon several EAs have been putting in good signals.

As I write these notes EA8MO is on approx. 14015 Kc. with a T7 note, but dozens of W stations calling him are making it impossible to QSO. Called CQ W and right on my frequency a 60 W signal called CQ no VK7. Dear Editor, that's why you received these notes early this month. I just couldn't win.

## CORRESPONDENCE

WHO IS THE OLDEST ACTIVE OLD-TIMER?

"Grand View," Cliff Drive, Katoomba, N.S.W.

Editor "A.R." Sir,

As an old-timer I have frequently been asked if I ran name the oldest old-timer who is still an active Ham, but this has been unable to do. It would, therefore, be interesting to receive nominations for this honour from readers of the magazine. My first Experimental Licence was issued to me in 1912 under the call sign XABQ, and except during war years when, of course, such licences were suspended, I have held one almost continuously ever since, and have been active, too.

On a number of occasions I have endeavoured to obtain a copy of the call sign book issued round about the time that my first licence was issued, but I have been unsuccessful. However, there may be among your readers somebody who has one of these relics of early Ham days, and thus help to throw some light on the matter.

—WILLIAM J. ZECH, VR2ACP.

## BLOW MOWER TRANSMISSIONS

76 Gladstone St., Kew, E4, Victoria.

Editor "A.R." Sir,

You have asked, in the current (M4) issue of "Amateur Radio" for reports on slow wave practice transmissions from official W.I.A. stations. Herewith are my reactions.

I am 41 years old, married with two young children and living in a small flat. My dearest ambition is to get my A.O.C.P., my call sign, and then get spare to put on my transmitting set and have built myself what I think is a decent receiver, and I have a lot of fun with it. I have a job which necessitates my bringing home work for a couple of nights a week. On Sunday two or three months I study the mysteries of reactance and impedance and Q factor with a view to successfully coping with the theory part in the exam. I have put a lot of time and money on my bench at work and during lunch hours I busy away with great enthusiasm. What with coping with my job and a family as well as my studies, I am sure I have my enthusiasm still there. I am sure I would get there save for one thing—lack of money receiving practice.

It was therefore with very great interest that I first heard, in the official W.I.A. Sunday morning broadcasts and in "Amateur Radio" about 6

months ago, of impending slow wave practice transmissions. But suddenly there were no more announcements and what was worse, no slow wave. Only blank silence. After about 5 or 6 months, and announcements started again. A little bit apocryphal this time, I listened at the appointed time and after a couple of disappointing meetings I at last heard the W.I.A. local transmission on Sunday morning. I got it for two or maybe three Sundays and then suddenly it stopped. Why? I tuned onto the official W.I.A. news at 10.15—no explanation, no nothing, I sharpened my pencil again, put on my headphones, adjusted my b.f.o. and tuned onto 1594 Kc. last Sunday. But once more no slow wave. No explanation—no nothing.

Night after night I have sought the slow wave from VK2, 4, 6, and 7 official W.I.A. stations. I have read the announcements in "Amateur Radio" and got the right time—but I haven't heard a darned thing. Maybe my set is not as good as I think it is—or maybe there haven't been any slow wave transmissions. I feel so discouraged that I have almost given up hope—however, I will have a listen for 7W1 tonight.

One day I will have my ticket I hope, and maybe I will forget my earlier difficulties. But at present I feel that as far as people in my position are concerned, it is all a very bad advertisement for the W.I.A. We people who are outside have no right to expect the W.I.A. to help us to our tickets, but if they do anything practical to help us—as with more practice—we should and we no doubt do, feel very grateful.

But please, if you start to do anything, please do it properly—and if accidents and mishaps occur, as they are bound to do, do the courtesy of telling me about it. Maybe trying to get me interested in all this, but it is very difficult when I don't take her to the pictures as I wish to listen to a scheduled transmission which does not eventuate—and I cannot tell her why.

Well I think I have written enough, so I will get back to my "Radio Amateur's Handbook."

—EDWIN G. FORT.

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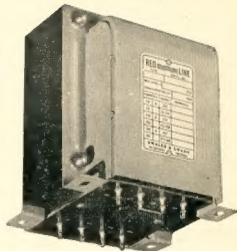
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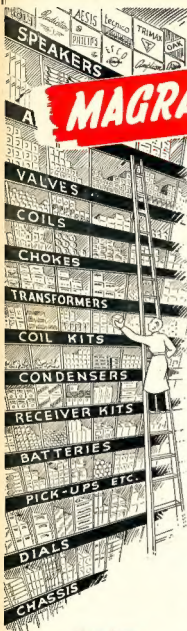
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